

Exploring the Role of Trust and Credibility in Science Communication: Insights from the Sixth Summer Symposium on Science Communication

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The 6th ISU Summer Symposium on Science Communication was held at Iowa State University from June 7 to 9, 2018. Hosting this biennial symposium series is a central activity of the Iowa State Science Communication Project, an interdisciplinary collaboration that aims to enhance research on, education for, and the practice of public science communication. Over 60 national and international scholars and practitioners of science communication attended the symposium and engaged in frank discussion about the processes, rhetorics, perceptions, benefits and limitations of credibility and trust within the context of science communication.

The American public views science as one of the most trusted institutions in society. At the same time, however, many people also discredit specific scientists or scientific results as biased or untrustworthy (Funk, 2017). If science is trusted, why is some scientific information viewed with skepticism or outright denial? Or taken the other way, if scientific information is indeed untrustworthy, why does the public consistently rate science as having a positive impact on society (Funk, Kennedy & Sciupac, 2016; Gauchat, 2010, 2012)?

Trust and credibility develop from complex interactions within the communication process and influence how people interpret, evaluate, and make decisions regarding sources and information (Brossard & Nisbet, 2007; Pornpitakpan, 2004). However, the specific interactions and outcomes of trust and credibility within science communication remain understudied, with knowledge widely dispersed across multiple fields, each with different definitions, measures and theoretical frameworks (National Academies of Sciences, Engineering, and Medicine, 2016). Scholars have described credibility as a multi-item construct that emerges from some combination of the audience's perceptions of the source's "trustworthiness" (character, honesty, believability) (McCroskey & Teven, 1999), "expertise" (qualifications, intelligence, authority, knowledge), and "goodwill" (caring, responsiveness, concern, empathy) (Teven, 2008). Yet, trust and credibility are not static concepts, and are

constantly (re)articulated between people and over time by and through discourse (Prelli, 1989).

These proceedings assemble a selection of the work presented at the 6th ISU Summer Symposium on Science Communication that explores several complex questions: How do publics, contexts, and discourses enable or constrain trust and credibility of scientific communication? How do trust and credibility emerge in these contexts? When do trust and public perceptions of credibility encourage or even delay public action on scientific issues? What are the relationships between credibility and trust on communities' interpretations and receptivity to scientific information and decision-making?

Several themes emerged from the symposium and are reflected in these proceedings. We suggest that they reflect the current state of scholarship on the role of trust and credibility in science communication and can guide future research:

- Across the social sciences and humanities, scholars view, define and engage trust and credibility in different, yet related, ways. Examined as quantifiable constructs that can be reliably measured, or analyzed as abstract signifiers whose articulation is contextually dependent, these concepts play a significant role in how publics accept (or reject) scientific information and make judgements about scientists themselves.
- Scientists and science communicators often emphasize expertise when attempting to build trust with an audience. Yet, expertise is only one aspect of credibility and is rarely convincing on its own. It would be beneficial for these communicators to broaden their conceptualization of trust beyond ideas of expertise to include concepts such as character, honesty, and goodwill.
- Trust and credibility are not monolithic and definitions remain confounded. Trust in individuals is built differently than trust in institutions, which is likewise built differently than trust in processes. Trust exists in the present to guide how information is interpreted and evaluated, yet is also a temporal construct, being built over long periods of time and influenced by historical contexts. Future scholarship needs to better conceptualize the myriad dimensions that underlie these ideas. This will likely require scholarship that purposefully crosses disciplinary boundaries.
- Trust is not an object to possess nor is it located in a particular person or message. Trust is earned through the relationship between actors through communication. This interrelational aspect of trust and credibility is especially salient in the context of science communication where differences in expertise, status, and power between speaker and audience can complicate relationship-building. Often the implied direction is that the public should trust the experts. Yet, the experts should also consider when they need to trust the public.
- Building trust and credibility is not always the aim within science communication. Distrust and criticisms are sometimes the socially responsible outcome, even when aimed at science or scientific results. Experts may fear that being vulnerable or admitting error may appear to weaken credibility, but in the long term earns greater trust by revealing motivations and intentions toward a larger relationship.

- Our growing understanding of the role of trust and credibility in science primarily remains within academia and other research-focused institutions. Researchers need to actively reach out and engage with the scientists and science communication practitioners who could more directly benefit from the results of our findings and ideally help guide what future research questions need to be explored next.

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